D0 Status After January Shutdown

- D0 has completed all major jobs planned for the January shutdown by 6pm on Thursday, January 30th when D0 collision hall has been Searched and Secured

- We experienced two "glitches" during closing last week, both of them related to cables/connectors been pulled out during closing of the large detector elements
  - On Tuesday during End Calorimeter closing connector providing power to 25% of preamps for luminosity counters on North side has failed. We had to re-open, re-survey End Calorimeter on Wednesday to fix this problem
  - On Thursday after detector was fully closed we detected raise in Central Calorimeter pre-amplifiers temperature
    - Partial re-opening of the detector on Friday demonstrated that cable for remote control of power distribution box was pulled out during closing and switched cooling fans off. The problem was fixed within 10 minutes and we closed detector during Saturday access
    - Survey of the closed detector has been accomplished on Saturday day shift as well

- Based on negative experience during initial closings we developed special "check list" as well as require presence of experts during detector closing to monitor all parameters
  - Closing on Saturday under such conditions went flawless

Shutdown Results

- Silicon detector
  - Number of operating channels
    - Before January shutdown ~88%
    - After repairs ~92%
- Fiber Tracker and pre-showers
  - Warm up of the VLPC He cryostat – impurities cleanup
    - First cryostat warm-up with full set of AFE boards installed
    - At the end of warm-up (around room temperature) VLPC heaters turned ON due to "feature" of the temperature control firmware raising local temperatures to 50C
    - All VLPC cassetes have been heated to 66C during assembly process
    - Organizational and technical "interlocks" to prevent such warm-ups in the future are been developed
  - Upgrades/modifications to L1 trigger and DAQ electronics
- Calorimeter
  - Modifications to all BLS boards in order to reduce Level 1 calorimeter trigger noise by ~ factor of two
  - Replacement of cooling fans in all preamplifier assemblies
    - failure of such fan caused ~ 1 day shutdown last year
  - Installation of electronics for full eta Level 1 calorimeter coverage

Shutdown Progress

- Muon system
  - Repairs of mini-drift tubes broken wires
    - 2 wires out of ~50,000 over ~2 years
  - Replacement of failed bases/phototubes in trigger detectors
  - Upgrade of PDT control boards
- Luminosity system
  - Purge line in the PMT region
- FPD
  - Commissioning of AFE based electronics
  - Repairs of the Roman pots
- Tests of solenoid and toroid magnets has been performed on Friday, January 31st
  - Stable operation under full currents
- Survey
  - All survey jobs have been accomplished on schedule
    - Many thanks to the survey group for flexibility and extra job been done
- Level 2 trigger
  - Non-lockstep mode operation will provide D0 Level 1 trigger rates capability in the 2-3kHz region
  - New updated muon algorithms
- On-line
  - Multiple software upgrades

Summary

- D0 experiment progressed safely and on schedule with January shutdown. All major planned jobs have been accomplished

- Special thanks to
  - All physicists and engineers involved in the shutdown activities
  - Mechanical support team for safely opening/closing detector (more times, then planned…)
  - Survey team for finishing all jobs planned for the January shutdown on schedule

- Taking into account updated Tevatron startup schedule
  - D0 will be in supervised access till Friday, February 7th
  - We do not plan to open the detector
  - We will concentrate on finishing commissioning of the fiber tracker trigger during this time as well as fixing a few other minor issues

- Experiment is ready for data taking as of Saturday, February 1st